NEW PLACEMENTS FOR SOME SPECIES OF PARANTHIDIUM

(HYMENOPTERA: APOIDEA)[1]

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While studying the *Paranthidium* species in the U.S. National Museum, I had the opportunity to investigate the structural characters of *Anthidium texanum* Cresson and *Dianthidium arizonicum* Rohwer. That investigation shows that these species have a systematic position different from that indicated by Schwarz (1926) and Michener (1948 and 1951).

On the basis of the structural features, I propose a new genus, *Adanthidium*, for these two species and also remove from *Paranthidium* the subgenus *Mecanthidium*, suggesting a better position for it nearer to *Dianthidium* proper.

Adanthidium, n. gen.

Type species.—*Anthidium texanum* Cresson, 1878.

Near *Dianthidium*. Mandibles of the female of normal length, with one tooth only, the apical one, small, followed by a continuous edge to the internal angle; maxillary palpi three-segmented. Clypeus overhanging base of labrum; subantennal suture straight; interalveolar area bicarinate; ocelli small; preoccipital ridge not carinate. Pronotal lobe lamellate, forming a small concave area on its upper side. Mesonotum projecting over and hiding pronotum as seen from above, with a large yellow cuneiform transverse spot on each side anteriorly, without lateromarginal stripes; mesepisternum sharply edged but not carinate; scuto-scutellar suture not sulcate; scutellum moderately projecting backward, slightly emarginate medially, rounded laterally. Tegula wide, rounded-subdeltoid; cubito-anal nervure almost coincident with Media. Arolia present; hind basitarsus narrow. Propodeum without a row of pits on its basal area; postspiracular sulcus weak. Metasoma elongate, segments not constricted basally; marginal depressions of terga well developed, smooth, abruptly terminated at sides by a notch; gradulus of first tergum not carinate; sixth tergum rounded-truncate posteriorly, concave in profile, actual margin ventral, separated from posterior edge by a narrow subscopal area; sixth sternum semielliptical.

Antenna of male short, not reaching scuto-scutellar suture, flagellum cylindrical with second segment shorter than first. Posterior coxa unarmed; tarsi normal, not elongate. Sixth metasomal tergum with a pronounced premarginal elevation at each side, subcarinate along median line and the carina ending in small premarginal tubercle; seventh tergum wide, trilobate, lateral lobes broadly rounded, median one spinelike, forming distal extremity of a weak median dorsal carina. Fifth sternum produced, truncate and subemarginate apically; sixth and seventh sterna split, the later tapering in two ogival lobes.

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This genus can be easily separated from *Paranthidium* by the shape of the mandibles of the female, the presence of the interantennal carinae, spots and anterior projection of the mesonotum, and in the male by the shorter antennae and the structure of the last metasomal tergum.

In the key of Michener (1948) *A. texanum* goes to *Dianthidium*, but the shape of pronotal lamella is quite distinct, the coxal spine of the male is absent, and the sharp carinae on the preoccipital ridge and on the mesepisternum are absent, etc.

From a conservative point of view *Adanthidium* could be included as a subgenus of *Dianthidium*, but other South American groups, such as *Epanthidium*, must be excluded on the basis of the earlier mentioned characteristics.

Mecanthidium has been considered a subgenus of *Paranthidium*, but probably this genus could be grouped with *Dianthidium*, as can be seen from *M. sonorum* Michener and *M. macrurum* Cockerell, in spite of the peculiar color of these species. *Mecanthidium* has the same structure of the marginal depression of the terga, suddenly abbreviated at each side by a notch, and the short antennae of the males. The presence of the carinae between the antennal sockets indicates its close relation to *Adanthidium*.

The species included are:

Adanthidium texanum (Cresson, 1878) n. comb.
Adanthidium arizonicum (Rohwer, 1916) n. comb.
For the separation of these two species, see Schwarz, 1926.

Paranthidium gabbi (Cresson) n. comb.

Anthidium gabbi Cresson, 1878, Trans. Am. Ent. Soc. 7: 115.

I had the opportunity to study the type specimen of *A. gabbi* at the Academy of Natural Sciences of Philadelphia. It seems to me that four female specimens in the U.S. National Museum, lot n:8239, from Mexico City, Mexico, H. C. Baker ("in trap with turpentine"), belong to this species. There are six more female specimens of this species at the American Museum of Natural History, with a manuscript name by the late Mr. F. H. Schwarz.

P. gabbi is very similar to *P. jugatorium* by the pattern of the yellow markings, but is larger and more robust, and the ocelli have a larger size in that species, being very small in the other species of the genus.

Female.—Black with following yellow maculations: large subtriangular spot on each side of clypeus separated from apical border by narrow black band; a complete parocular stripe tapering above; a short stripe parallel to orbits on upper third of gena; very small spot on pronotal lobe; mesoscutal stripe in an inverted L at each side anteriorly; scutellar band along posterior margin, medially interrupted

and shortened before axillae, which are black; vestigial mesepisternal spot; upper anterodistal third of femur, anterior surface of tibia, and a small spot on basitarsus of front leg; small spots on distal ends of median and hind femora and a basal one on median tibia; discal bands on terga 1–6, broadly interrupted on first tergum, interruption diminishing in size to fourth tergum and bands complete on two last terga; small spot on lateral extremities of sterna 2–4. Tegula brownish-fuscous; nervures and pterostigma piceous, wings fuscous chiefly on anterior border.

Pubescence pale yellowish on dorsal side, becoming whitish towards ventral side, including scopal hairs; fuscous on black parts of terga. Short, but more developed on frons, gena, and flank of propodeum.

Punctures very dense and deep with shining cariniform intervals smaller than diameter of a puncture, almost uniform on head and thorax, slightly sparser on bases of terga, becoming finer and denser on the apical thirds of terga, particularly on first tergum, and lacking on narrow impunctate margins of terga 2–5. This margin broader on second tergum and becoming progressively narrower toward fifth tergum.

Eye length equal to upper interorbital distance and slightly longer than lower interorbital distance (84 : 84 : 82); interocellar distance less than ocellorbital, and this slightly longer than ocelloccipital distance (19 : 26 : 24 and comparative diameter of median ocellus 8). Mandible large, shaped as in *P. jugatorium*, with a very large apical tooth, its diagonal length equal to the length of eye, and apical width slightly longer than half length of eye (84 : 44).

Size.—Body length 10 mm, wing including tegula 9.5 mm; head and abdominal width 3.7 mm.

The allotype specimen and one alloparatype are deposited in the U.S. National Museum, six alloparatypes in the American Museum of Natural History, one in The University of Kansas, and one in my collection.

One of the alloparatypes has two small yellow spots on the vertex as in some specimens of *Paranthidium jugatorium perpictum* and the band on fourth tergum is complete.

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